Variant FCC/IC Test Report

EQUIPMENT	:	**Internet Stick**
BRAND NAME	:	**Nokia**
MODEL NAME	:	**CS-10**
FCC ID	:	**PYARD-7**
IC	:	**661V-RD7**
STANDARD	:	**47 CFR Part 2, 22(H), 24(E)** **RSS-132 Issued 2, RSS-133 Issued 5**
CLASSIFICATION	:	**PCS Licensed Transmitter (PCB)**
Tx/Rx FREQUENCY RANGE	:	**GSM850 : 824.2 ~ 848.8 MHz / 869.2 ~ 893.8 MHz** **GSM1900 : 1850.2 ~ 1909.8 MHz / 1930.2 ~ 1989.8 MHz** **WCDMA Band V : 826.4 ~ 846.6 MHz / 871.4 ~ 891.6 MHz**
APPLICANT	:	**Nokia Corporation** Elektroniikkatie 10, PO box., Oulu City, 90571. Finland.

This is a variant report which is only valid together with the original report. The product sample received on Mar. 27, 2009 and completely tested on Apr. 18, 2009. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.4-2003 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:

Roy Wu / Manager

Testing Laboratory 1190

SPORTON INTERNATIONAL INC.

No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG8D1611-03	Rev. 01	The model CS-10 has some changes of hardware. Please refer to appendix C for the declaration for the differences. The original report can be referred to Sporton report number FG8D1611 as appendix D. Based on the original report, only RSE was verified for the Hardware change.	May 06, 2009

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result
3.1	§2.1053 §22.917(a) §24.238(a)	RSS-132 (4.5.1) RSS-133 (6.5.1)	Field Strength of Spurious Radiation	< $43+10\log_{10}$(P[Watts])	PASS

1 General Description

1.1 Applicant

Nokia Corporation
Elektroniikkatie 10, PO box., Oulu City, 90571. Finland.

1.2 Manufacturer

Nokia Corporation
Elektroniikkatie 10, PO box., Oulu City, 90571. Finland.

1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	Internet Stick
Brand Name	Nokia
Model Name	CS-10
FCC ID	PYARD-7
IC	661V-RD7
Tx Frequency	GSM850 : 824 MHz ~ 849 MHz GSM1900 : 1850 MHz ~ 1910 MHz WCDMA Band V : 824 MHz ~ 849 MHz
Rx Frequency	GSM850 : 869 MHz ~ 894 MHz GSM1900 : 1930 MHz ~ 1990 MHz WCDMA Band V : 869 MHz ~ 894 MHz
Antenna Type	Fixed Internal Antenna
HW Version	1.3
SW Version	2.4.1
Mechanical Version	3.0
Type of Modulation	GSM / GPRS : GMSK EDGE : 8PSK WCDMA : QPSK HSDPA : QPSK / 16QAM HSUPA : BPSK
EUT Stage	Production Unit

List of Accessory:

Specification of Accessory		
USB Cable	**Brand Name**	Nokia
	Model Name	CA-150D
	Signal Line Type	0.24 meter shielded cable with ferrite core

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. For accessories equipped with this EUT, please refer to the appendix of the external photo.

1.4 Testing Site

Test Site	SPORTON INTERNATIONAL INC.	
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978	
Test Site No.	**Sporton Site No.**	**FCC/IC Registration No.**
	03CH07-HY	TW1022/4086B-1

1.5 Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- Preliminary Guidance for Receiving Applications for Certification of 3G Device. May 9, 2006.
- 47 CFR Part 2, 22(H), 24(E)
- ANSI C63.4-2003
- ANSI / TIA / EIA-603-C-2004
- IC RSS-132 Issued 2
- IC RSS-133 Issued 5

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B (DoC), recorded in a separate test report.

1.6 Ancillary Equipment List

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU200	N/A	N/A	Unshielded, 1.8 m
2.	Notebook	DELL	Vostro 1510	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m

2 Test Configuration of Equipment Under Test

2.1 Test Mode

During all testing, EUT is in link mode with base station emulator at maximum power level. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT is rotated on three test planes to find out the worst emission.

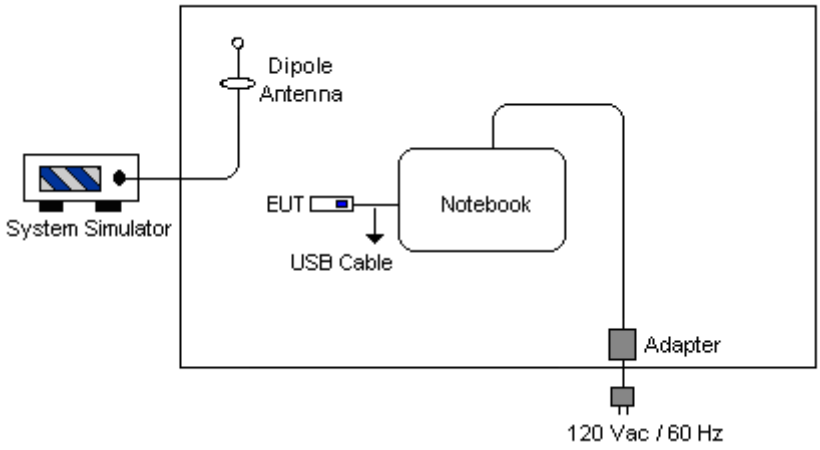
Frequency range investigated for radiated emission is as follows:

1. 30 MHz to 9000 MHz for GSM850.
2. 30 MHz to 19000 MHz for GSM1900.

Test Modes	
Band	**Radiated TCs**
GSM 850	■ GPRS Link +USB Cable with NB
GSM 1900	■ GPRS Link +USB Cable with NB

Note: The above test modes were the worst case from the original report.

2.2 Connection Diagram of Test System



3 Test Result

3.1 Field Strength of Spurious Radiation Measurement

3.1.1 Description of Field Strength of Spurious Radiated Measurement

The radiated spurious emission was measured by substitution method according to ANSI / TIA / EIA-603-C-2004. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

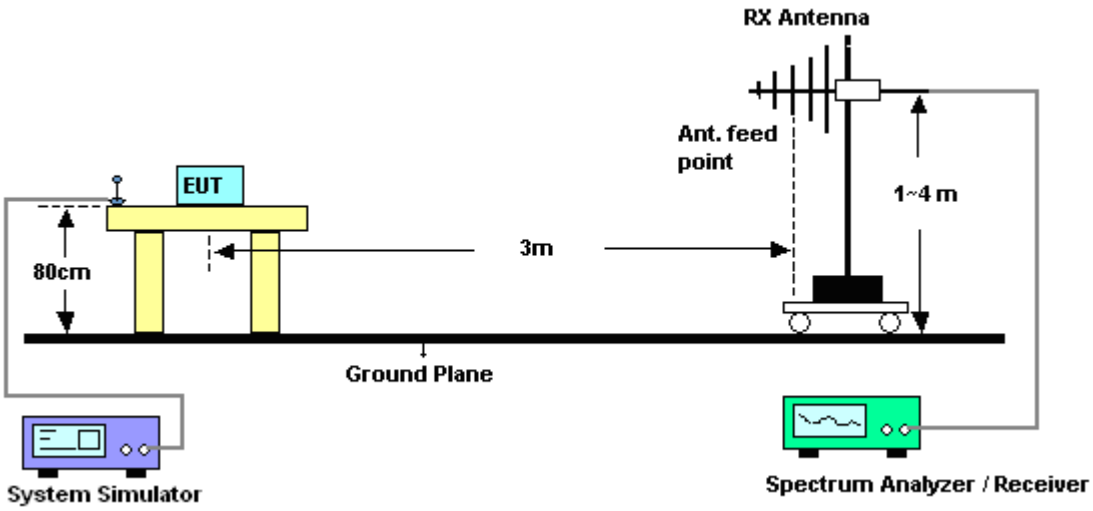
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

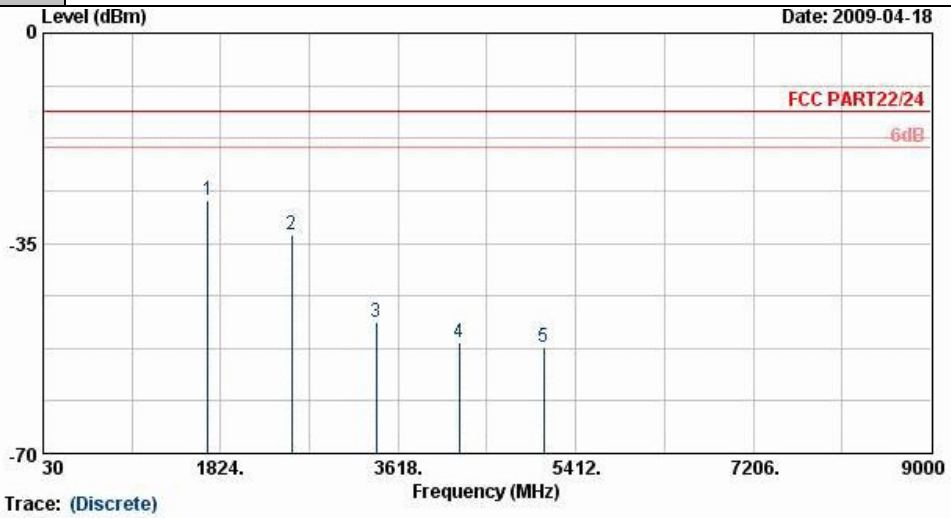
1. The EUT was placed on a rotatable wooden table with 0.8 meter about ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. Emission level (dBm) = output power + substitution Gain.

3.1.4 Test Setup



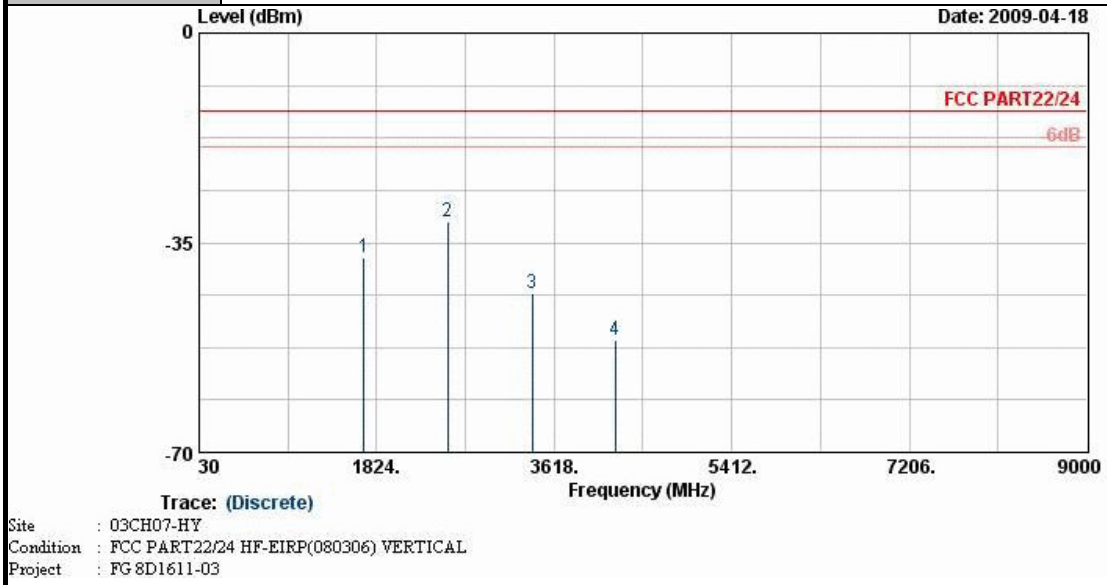
3.1.5 Test Result of Field Strength of Spurious Radiated

Band :	GSM850	**Temperature :**	22~26°C
Test Mode :	GPRS Link	**Relative Humidity :**	42~45%
Channel :	CH251	**Polarization :**	Horizontal
Test Engineer :	Kai Wang		
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



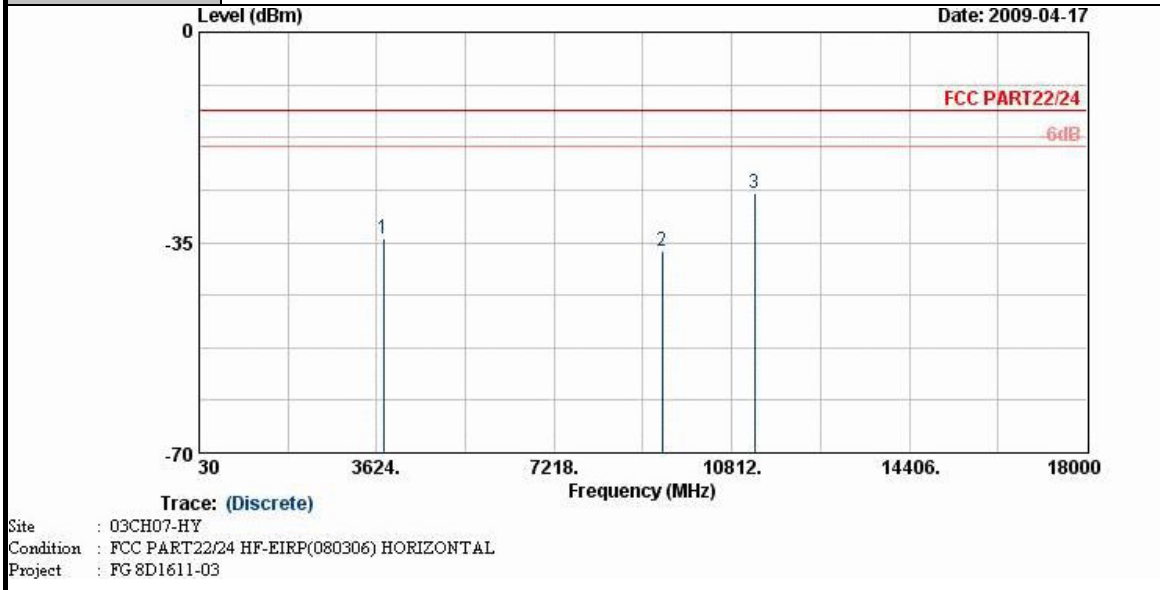
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1693	-27.88	-13	-14.88	-37.53	-28.06	3.02	5.35	H	Pass
2545	-33.54	-13	-20.54	-42.29	-33.85	3.73	6.19	H	Pass
3397	-48.27	-13	-35.27	-56.18	-50.26	3.98	8.12	H	Pass
4235	-51.45	-13	-38.45	-60.37	-53.46	4.84	9.00	H	Pass
5090	-52.31	-13	-39.31	-63.18	-54.62	5.36	9.82	H	Pass

Band :	GSM850	**Temperature :**	22~26°C
Test Mode :	GPRS Link	**Relative Humidity :**	42~45%
Channel :	CH251	**Polarization :**	Vertical
Test Engineer :	Kai Wang		
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



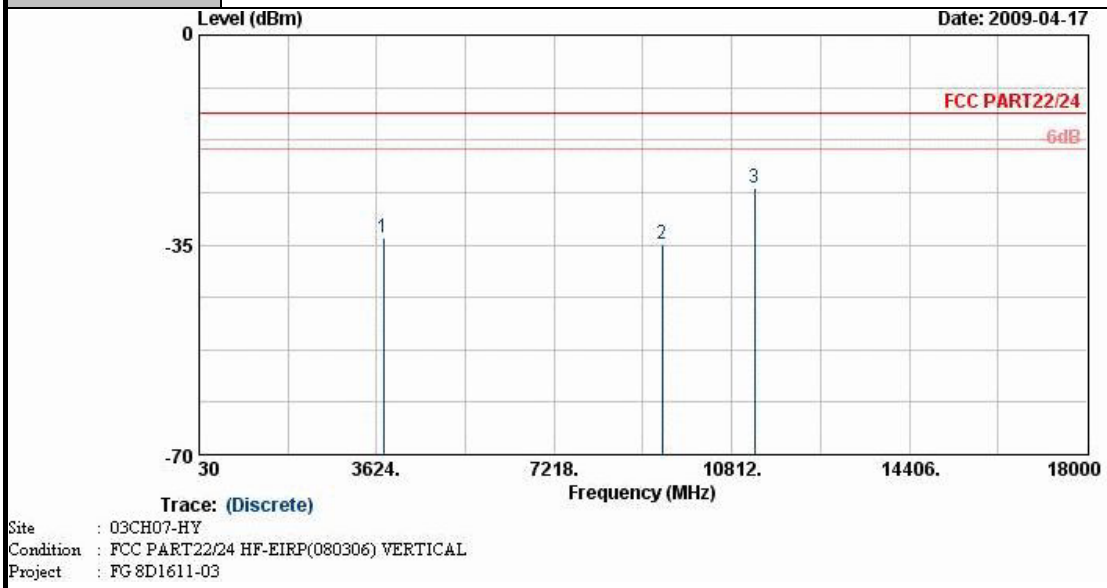
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1693	-37.41	-13	-24.41	-44.68	-37.59	3.02	5.35	V	Pass
2545	-31.50	-13	-18.50	-43.40	-31.81	3.73	6.19	V	Pass
3397	-43.40	-13	-30.40	-54.13	-45.39	3.98	8.12	V	Pass
4235	-51.27	-13	-38.27	-61.04	-53.28	4.84	9.00	V	Pass

Band :	GSM1900	Temperature :	22~26°C
Test Mode :	GPRS Link	Relative Humidity :	42~45%
Channel :	CH661	Polarization :	Horizontal
Test Engineer :	Kai Wang		
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3760	-34.38	-13	-21.38	-51.16	-39.06	4.03	8.71	H	Pass
9396	-36.55	-13	-23.55	-62.56	-43.71	6.02	13.18	H	Pass
11280	-26.84	-13	-13.84	-61.89	-31.65	8.48	13.29	H	Pass

Band :	GSM1900	**Temperature :**	22~26°C
Test Mode :	GPRS Link	**Relative Humidity :**	42~45%
Channel :	CH661	**Polarization :**	Vertical
Test Engineer :	Kai Wang		
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3760	-33.93	-13	-20.93	-53.00	-38.61	4.03	8.71	V	Pass
9396	-34.98	-13	-21.98	-64.34	-42.14	6.02	13.18	V	Pass
11280	-25.46	-13	-12.46	-60.87	-30.27	8.48	13.29	V	Pass

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
System Simulator	R&S	CMU200	106656	N/A	May 06, 2008	May 05, 2009	Radiation (03CH07-HY)
Bilog Antenna	SCHAFFNER	CBL6111C	2726	30MHz~1GHz	Nov. 20, 2008	Nov. 19, 2009	Radiation (03CH07-HY)
Spectrum Analyzer	R&S	FSP	101067	9kHz~30GHz	Dec. 02, 2008	Dec. 01, 2009	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	75962	1G~18GHz	Aug. 13, 2008	Aug. 12. 2009	Radiation (03CH07-HY)
Pre Amplifier	Agilent	8449B	3008A02362	1G~26.5GHz	Dec. 17, 2008	Dec. 16, 2009	Radiation (03CH07-HY)
Pre Amplifier	COM-POWER	PA-103A	161241	10~1000MHz. 32dB.GAIN	Mar. 27, 2009	Mar. 26, 2010	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	66584	1G~18GHz	Aug. 06, 2008	Aug. 05. 2009	Radiation (03CH07-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz~30 MHz	May 22, 2008	May 21, 2010	Radiation (03CH07-HY)

5 Uncertainty of Evaluation

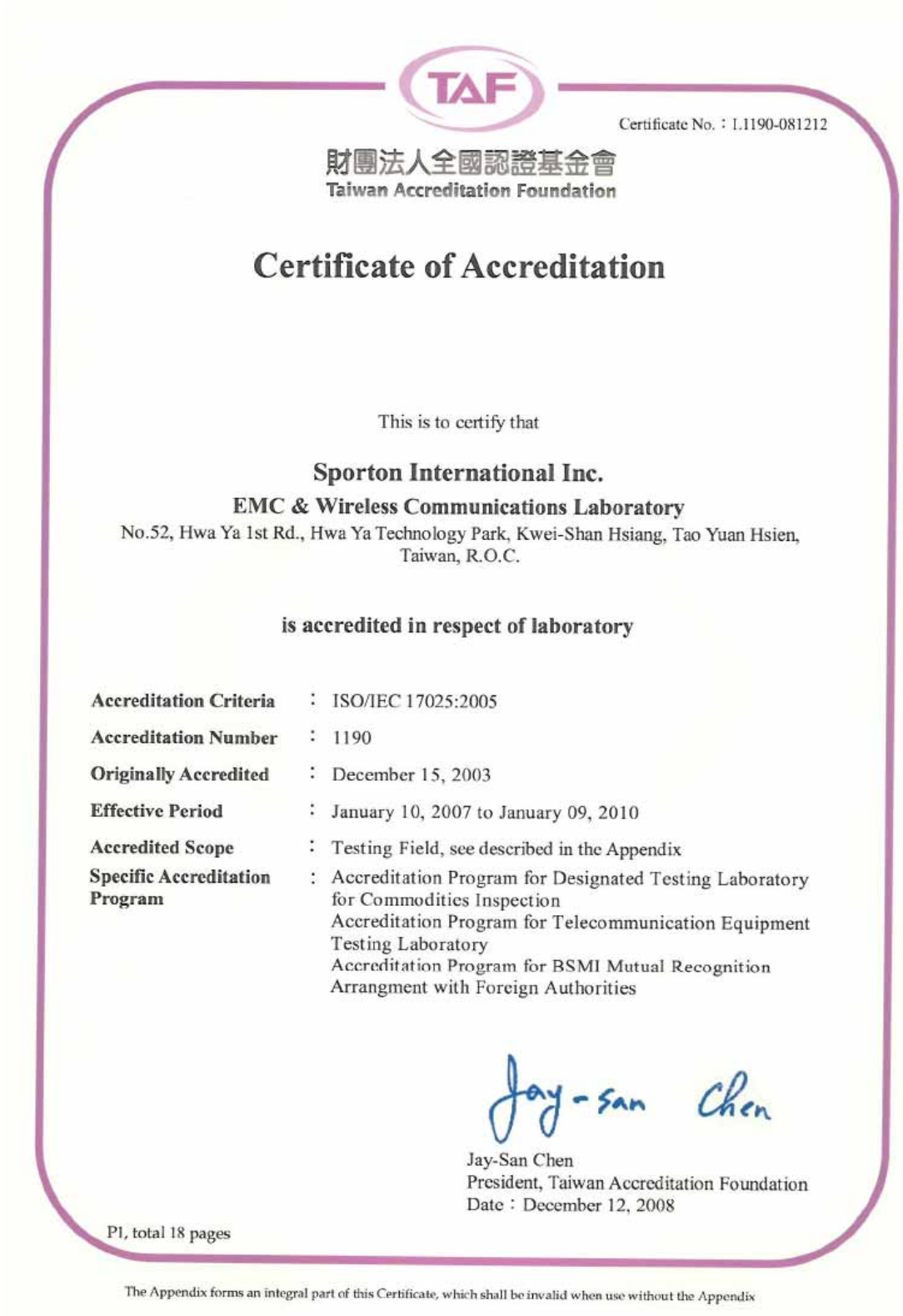
Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Contribution	Uncertainty of x_i		$u(x_i)$
	dB	Probability Distribution	
Receiver reading	0.41	Normal(k=2)	0.21
Antenna factor calibration	0.83	Normal(k=2)	0.42
Cable loss calibration	0.25	Normal(k=2)	0.13
Pre Amplifier Gain calibration	0.27	Normal(k=2)	0.14
RCV/SPA specification	2.50	Rectangular	0.72
Antenna Factor Interpolation for Frequency	1.00	Rectangular	0.29
Site imperfection	1.43	Rectangular	0.83
Mismatch	+0.39/-0.41	U-shaped	0.28
Combined standard uncertainty Uc(y)	**1.27**		
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)	**2.54**		

Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Contribution	Uncertainty of x_i		$u(x_i)$	Ci	$Ci*u(x_i$
	dB	Probability Distribution			
Receiver reading	±0.10	Normal(k=1)	0.10	1	0.10
Antenna factor calibration	±1.70	Normal(k=2)	0.85	1	0.85
Cable loss calibration	±0.50	Normal(k=2)	0.25	1	0.25
Receiver Correction	±2.00	Rectangular	1.15	1	1.15
Antenna Factor Directional	±1.50	Rectangular	0.87	1	0.87
Site imperfection	±2.80	Triangular	1.14	1	1.14
Mismatch Receiver VSWR Γ1= 0.197 Antenna VSWR Γ2= 0.194 Uncertainty=20log(1-Γ1*Γ2)	+0.34/-0.35	U-shaped	0.244	1	0.244
Combined standard uncertainty Uc(y)	**2.36**				
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)	**4.72**				

6 Certification of TAF Accreditation



Certificate No. : L1190-081212

財團法人全國認證基金會
Taiwan Accreditation Foundation

Certificate of Accreditation

This is to certify that

Sporton International Inc.
EMC & Wireless Communications Laboratory
No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

is accredited in respect of laboratory

Accreditation Criteria	:	ISO/IEC 17025:2005
Accreditation Number	:	1190
Originally Accredited	:	December 15, 2003
Effective Period	:	January 10, 2007 to January 09, 2010
Accredited Scope	:	Testing Field, see described in the Appendix
Specific Accreditation Program	:	Accreditation Program for Designated Testing Laboratory for Commodities Inspection Accreditation Program for Telecommunication Equipment Testing Laboratory Accreditation Program for BSMI Mutual Recognition Arrangment with Foreign Authorities

Jay-San Chen
President, Taiwan Accreditation Foundation
Date : December 12, 2008

P1, total 18 pages

The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix

Appendix A. Photographs of EUT

Please refer to Sporton report number EP8D1611-03 as below.

Appendix C. Product Equality Declaration

FIH Co., Ltd

No.4, Mingsheng Street, Tucheng City, Taipei County 23678, Taiwan.

Date: April 21, 2009

Product Equality Declaration

We, FIH Co., Ltd, declare on our sole responsibility for the product of CS-10(model) as below:

The differences between original CS-10 and revised CS-10 are

- RF connector, PCB Layout and system clock changed the manufacturer and vendor.
- Memory size changed from 90nm to 65nm: 512Mb NOR flash/256 DDR
- USB Capacitor changed from 4.7uf to 10uf

Except listings above, the others are the same as previous one.

Should you have any questions or comments regarding this matter, please have my best attention.

Sincerely yours,

Manufacture: FIH Co., Ltd
Address: No.4, Mingsheng Street, Tucheng City, Taipei County 23678, Taiwan

Authorized Person:

Appendix D. Original Report

Please refer to Sporton report number FG8D1611 as below.